RADIOCHEMISTRY TECHNICIAN
JOB PERFORMANCE MEASURE

TASK CODE: TRC-H01

TASK: Prepare a Sample for Counting Using Electrodeposition

NAME: _____ **SSN**: _____

REFERENCES:

1. WP 12-RL1013, Sample Mounting
2. WP 12-RL1001, Sample Tracking and Custody
3. WP 12-RL1400, Radiochemistry Laboratory Waste Management
4. CF-412, Sample Counting Preparation Techniques

TERMINAL OBJECTIVE:

Given a sample requiring electrodeposition, prepare and mount the sample per WP 12-RL1013.

CONSEQUENCES OF INADEQUATE PERFORMANCE:

Improper analysis results
Loss of a sample

HAZARDS (PERSONNEL/EQUIPMENT STATUS):

None

PRE-REQUISITE TRAINING/ TASK COMPLETION:

1. CF 4.00 Series
2. TRC-G03, Perform Elemental Separation of a Transuranic Product

TOOLS/EQUIPMENT (MATERIALS REQUIRED):

1. Electrodeposition Cell
2. Prepared reagents
3. Discs
4. Variable DC power supply

Instructions to Trainee: You shall acquire the necessary references and equipment, and complete all required documentation. Knowledge requirements shall be completed with 80% or greater accuracy. Critical step performance shall be completed with 100% accuracy.

Instructions to JPM Evaluator: The trainee is to perform the terminal objective, without assistance, on the job site. Provide clarification of requirements if requested by the trainee. You are encouraged to ask relevant questions to verify trainee understanding. If the trainee fails this JPM, clearly document the reason for failure and forward to the trainee's manager. Successful completion of this JPM shall be recorded on the trainee's qualification card.

KNOWLEDGE REQUIREMENTS:

Reference	Knowledge Requirement	Pass/Fail
1	State which samples require analysis via alpha spectroscopy.	
4	State the definition of electrodeposition.	
1	Describe the basic process of electrodeposition.	
1	State the required equipment and materials to perform electrodeposition.	
1	State the procedural precautions, limitations and prerequisites.	
1	Describe the two methods available for electrodeposition.	
4	Describe the basic process for electrodeposition via the Modified Talvitie Method.	
4	Describe the basic process for electrodeposition via the Alternate Oxalate Method.	
1	Discuss the required reagents for electrodeposition.	
3	State how the waste should be handled after electrodeposition.	
1	Describe the information required to be documented in the Radiochemistry Logbook.	
1	State the method of labeling electrodeposition discs.	
2	State the documentation requirements concerning chain of custody.	
1	Describe the precautions associated with hooking up an electrodeposition cell.	

PERFORMANCE REQUIREMENTS:

Reference	Performance Requirement	Pass/Fail
1	Prepare an electrodeposition cell.#	
1	Prepare labeled discs.#	
1	**Talvitie Method**	
1	Prepare a sample for electrodeposition.#	
1	Perform electrodeposition#	
1	Set the current to approximately 1 amp for 1.5 hours.#	
3	Discard waste products in proper locations .#	
1	Prepare electrodeposition disc for counting.#	
1	Document sample information in Radiochemistry Logbook.#	
2	Transfer custody of sample to the Counting Room.#	
1	**Alternate Oxalate Method**	
1	Prepare a sample for electrodeposition.#	
1	Perform electrodeposition#	
1	Set the current to approximately 0.4 amps for 4 hours.#	
3	Discard waste products in proper locations .#	
1	Prepare electrodeposition disc for counting.#	
1	Document sample information in Radiochemistry Logbook.#	
2	Transfer custody of sample to the Counting Room.#	

# indicates a critical step

FINAL EVALUATION: PASS FAIL

COMMENTS:

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EVALUATOR SIGNATURE: _____ **DATE**:_____

TRAINEE SIGNATURE: _____ **DATE**:_____

MANAGER SIGNATURE: _____ **DATE**:_____